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P.O. Box 9171
492 Old Connecticut Path
Framingham, MA 01701
508-879-0700
Computerworld.com

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Phone numbers, e-mail addresses and reporters' beats are available online at *Computerworld.com* (see Contacts link at the bottom of the home page).

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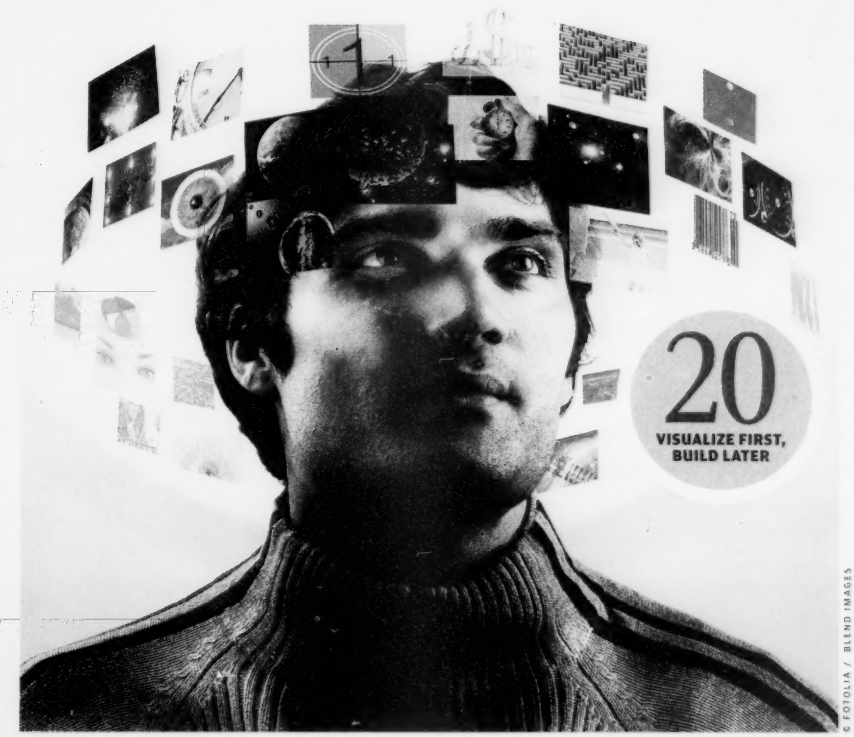

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Fresh Insights
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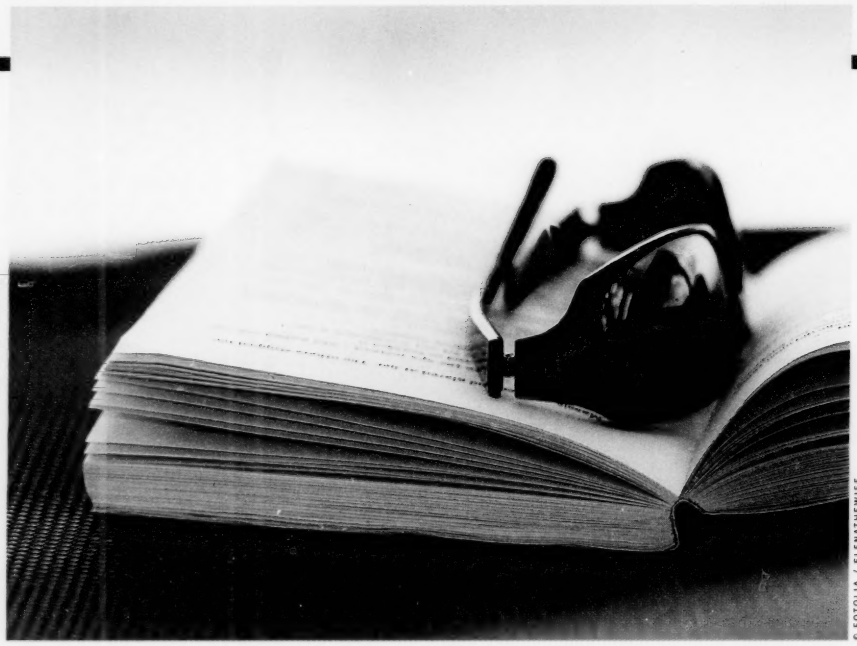
Great Ideas

HeadsUp



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DOWNTIME

CIOs Reveal Their Picks for Beach Reads

AS INFORMATION TECHNOLOGY managers venture out on vacation, they're trading server logs for reading material of a different ilk. *Computerworld* polled several IT execs about their summer reading plans.

Beach Clark, vice president of IT, Georgia Aquarium: "I think I've narrowed it down to *The Last Lecture*, by Randy Pausch. The other candidates were *Liar's Poker*, by Michael Lewis, and *Made to Stick: Why Some Ideas Survive and Others Die*, by Chip Heath and Dan Heath. I picked the Randy Pausch because he was a computer science guy. He was diagnosed with terminal pancreatic cancer, so the book's about living your life to the fullest."

Larry Bonfante, CIO, United States Tennis Association: "I'll take *Outsmart! How to Do What Your Competitors Can't*, by Jim Champy, because I'm a big fan of Champy's work; *Deception Point*, by Dan Brown, who always writes page-turners; and *Bad Moon Rising*, by Hank Bordowitz — I am a classic-rock aficionado and play in a rock band, so I'm interested in the real story of what happened with Creedence Clearwater Revival and John Fogerty."

Anthony Murabito, CIO, Cubist Pharmaceuticals Inc.: "*The Shallows: What the Internet Is Doing to Our Brains*, by Nicholas Carr. While I think his tone is somewhat north of bombastic, many of his previous views have come into crystal reality. I, too, believe the IT organization of 2020 will be a small, loosely coupled team that works in a matrix with business technologists."

– *Mary K. Pratt, contributing writer*

THINK TANK

Gartner: CIOs Should Plan for Recession No. 2

Recent news headlines – like "Fed Paints Weaker Picture of Growth and Employment" and "Retail Sales Decrease as Recovery Cools" – suggest that the fledgling economic recovery may be stalling.

What if the economy is headed toward a double-dip recession? According to the big thinkers at Gartner Inc., CIOs should be preparing for that distressing scenario – just in case.

"In 2008, most CIOs were forgiven for being unprepared to deal with the global recession, but if another recession unfolds in the next 12 to 18 months, no CIO will be forgiven for being unprepared a second time," Gartner said in a statement earlier this month.

Ken McGee, a Gartner fellow, said CIOs should work with other business execs to develop a list of IT projects that could be postponed or canceled if necessary, and use zero-based budgeting. But McGee said he doubts most CIOs will really follow that advice.

Separately, Gartner trimmed its forecast for worldwide IT spending this year.

In March, Gartner predicted a growth rate of 5.3% over 2009 spending, but in June the firm cut that figure to 3.9%. "The European sovereign debt crisis is having an impact on the outlook for IT spending," said analyst Richard Gordon.

– MITCH BETTS

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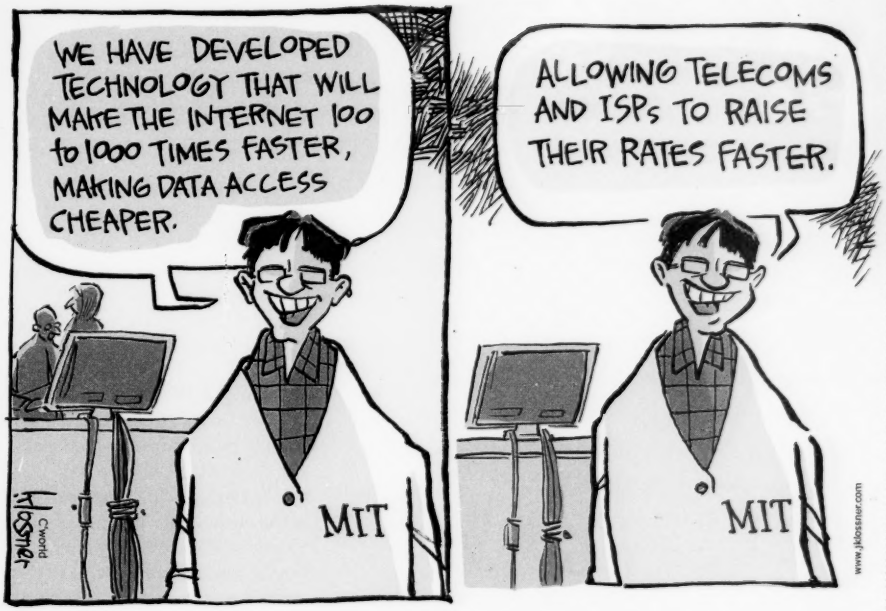
BETWEEN THE LINES
By John Klossner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FUTURE WATCH

MIT Design Could Speed Up the Internet

MIT RESEARCHERS have developed technology that they say not only will make the Internet 100 to 1,000 times faster, but also could make high-speed data access a lot cheaper.

The trick to such dramatic performance gains lies within the routers that direct traffic on the Internet, according to Vincent Chan, an electrical engineering and computer science professor at MIT, who led the research team. Chan told *Computerworld* that replacing electrical signals inside the routers with faster optical signals would make the Internet 100 times — if not 1,000 times — faster, while also reducing the amount of energy it consumes.

What would the Internet be like if it ran that much faster? Today, a user who has a hard time downloading a 100MB file would be able to easily send a 10GB file, according to Chan.

With increasingly powerful computer processors and bandwidth-hungry applications, the Internet will reach a "choke point" within three to five years, Chan said.

Today's routers have trouble dealing with incoming fiber-optic signals, so those signals are converted into electrical signals that can be stored in memory until they can be processed, according to MIT's report. The electrical signals are subsequently converted back to optical signals so they can be sent back out.

That process eats up time and energy, so Chan and his team developed technology they call flow switching that would eliminate the need for such conversions.

A speedier Internet would be a huge accomplishment, said Rob Enderle, principal analyst at Enderle Group. "Right now, the network is the bottleneck for hosted computing. This change could transform the industry as we know it," he said. "We are going to need a faster Internet. We need it now."

However, analysts noted that it would be expensive to replace current routers with the new technology.

– Sharon Gaudin

Micro Burst

Apple's endorsement of HTML 5 led to a

721%

increase in HTML 5 freelance jobs posted online in the past quarter.

WIRELESS TECH

Bluetooth 4.0 To Give Gadgets Bursty Links

The Bluetooth 4.0 low-power wireless networking specification has been approved, which means the technology may start appearing in devices such as smart meters and laptops later this year, the Bluetooth Special Interest Group reported earlier this month.

The new standard adds a low-power option for transmitting small bursts of data over short ranges.

The technology could first make its way to watches, smart meters, pedometers and other gadgets that run on coin-cell batteries, said Mike Foley, executive director of the Bluetooth SIG, the standards-setting organization.

Eventually, laptops and smartphones could include Bluetooth 4.0 and be able to collect data from other devices, for applications such as monitoring energy usage and health, Foley said.

The industry continues to add wireless capabilities to gadgets like cameras to help them communicate with other devices. Technologies like Wi-Fi maintain continuous connections, which can drain battery life, but Bluetooth 4.0 could let devices exchange low-level information over short distances without using much energy, Foley said.

– AGAM SHAH, IDG NEWS SERVICE

Feds Lower Bar For EHR Funds

Feedback prompts HHS to cut quality metrics in half and extend deadlines for fully implementing each phase of the new rules. By Lucas Mearian

AS PART OF ITS EFFORT to encourage widespread adoption of electronic health records (EHR) systems, the federal government has eased the requirements that health care providers must meet if they want to receive reimbursements for such projects.

The new criteria for demonstrating so-called meaningful use of electronic records are spelled out in the final Phase 1 EHR implementation guidelines that the U.S. Department of Health and Human Services issued earlier this month. The 864-page document was finalized after a three-month public comment period on draft rules that HHS released last December.

> "Our approach to **meaningful use** has been to throw it back to our vendor.
>
> **BILL FAWNS,** DIRECTOR OF IT SERVICES, KERN MEDICAL CENTER

The proposal attracted some 2,000 comments that led HHS to reduce the number of specific quality metrics from 90 to 44, noted William Connelly, an attorney specializing in health care in the Washington office of law firm Manatt, Phelps & Phillips LLP.

Striking a Balance

In a story on the *New England Journal of Medicine* Web site, HHS officials said the final meaningful-use rule "strikes a balance between acknowledging the urgency of adopting EHRs to improve our health care system and recognizing the challenges that adoption will pose to health care providers."

The lack of clarity prior to the latest release — and a firm 2015 deadline to qualify for some of the $36 billion in federal funds available for EHR projects — had served as a prod for Kern Medical Center, a 222-bed teaching hospital in Bakersfield, Calif., to take early steps to make sure it could meet the final guidelines.

In a contract with Medsphere Systems Corp. to deploy its OpenVista EHR system later this year, the health care firm required the vendor to "deliver meaningful use, however the requirements turn out," said Bill Fawns, director of IT services at Kern. "Our approach to meaningful use has been to throw it back to our vendor."

A key change in the guidelines, according to experts, allows providers to begin EHR deployments in 2012, 2013 or 2014, and then take up to two full years to fully implement Phase 1 standards. The initial proposal would have required all entities to meet final Phase 3 guidelines by 2015.

Today, only 20% of physicians and 10% of hospitals use even the most basic EHR technology, acknowledged HHS Secretary Kathleen Sebelius during a news conference announcing the guidelines. The HHS Centers for Medicare and Medicaid Services, which created the meaningful-use rules, estimates that 66.4% to 92.6% of hospitals and between 21% and 53% of private physician practices will have implemented EHRs by 2015.

The latest rules do little to promote the electronic exchange of EHRs between hospitals. "There wasn't much to promote health information exchange in the proposed rule, but they scaled it back even further in the final rule," Connelly said.

He expects health information exchanges to be addressed further in Phases 2 and 3. ◆

JOYCE HESSELBERTH ILLUSTRATION

Telecom Giant Takes to Web 2.0

A gradual rollout of microblogging and social networking tools is improving communication and collaboration at Alcatel-Lucent. By Sharon Gaudin

EXECUTIVES at telecommunications giant Alcatel-Lucent knew that the company needed to find a better means of internal communication following its formation via the 2006 merger of Alcatel SA and Lucent Technologies Inc.

"There was a problem in that we had no way to communicate across boundaries," said Greg Lowe, social media strategist and global infrastructure architect at Alcatel-Lucent. "Our CEO had a key message that we needed to be much more collaborative, yet we didn't have the tools. We were stuck with process-focused tools like Sharepoint. It wasn't a way to communicate across the company."

Lowe said the company's initial moves into the Web 2.0 world in 2008 were facilitated by the fact that many of the company's 77,000 employees already had personal experience with popular social networking services like Facebook and Twitter.

Alcatel-Lucent began slowly, launching an internal blogging tool based on the free Yammer platform in September 2008. Employees may not have fully understood the corporate benefits of microblogging, but they were intrigued.

The move wasn't endorsed or promoted by management, and no one was told to use the system. But the number of Yammer users inside the company slowly started to grow — from about 250 people at the end of 2008 to 9,300 today.

"It was a groundswell activity — and it didn't cost us anything," Lowe said.

In March 2009, Lowe launched an effort to improve collaboration among workers housed in offices around the world. For 13 months, he gathered requirements, analyzed available technologies, garnered the support of IT executives and secured funding. "It was an exciting, entrepreneurial way of getting things done," Lowe said.

The result of that effort: In April, Alcatel-Lucent started rolling out a Web 2.0 service from Jive Software Inc. that provides Facebook-like social networking tools, such as updates, people searches and communication channels, to the corporate world. The service also lets employees communicate with customers, partners and suppliers.

Lowe moved slowly again in implementing Jive, first inviting just 125 people to join. Usage spread quickly, though; the company now has about 20,000 Jive users, Lowe said.

His decision to deploy Web 2.0 technologies slowly may have been key to the initiative's early success.

"If you roll out your platform and send out an e-mail saying, 'As of Monday, I'll expect everyone to start posting,' the chances of that succeeding are minimal," said Brad Shimmin, an analyst at Current Analysis. "If you put the tool in the room and let them pick it up and figure [it] out themselves, it'll be put to good use." ◆

There was a problem in that we had no way to **communicate across boundaries.**
SOCIAL MEDIA STRATEGIST, ALCATEL-LUCENT

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THE Grill

Jason Scott

This guardian of digital history is archiving whatever he can get his hands on.

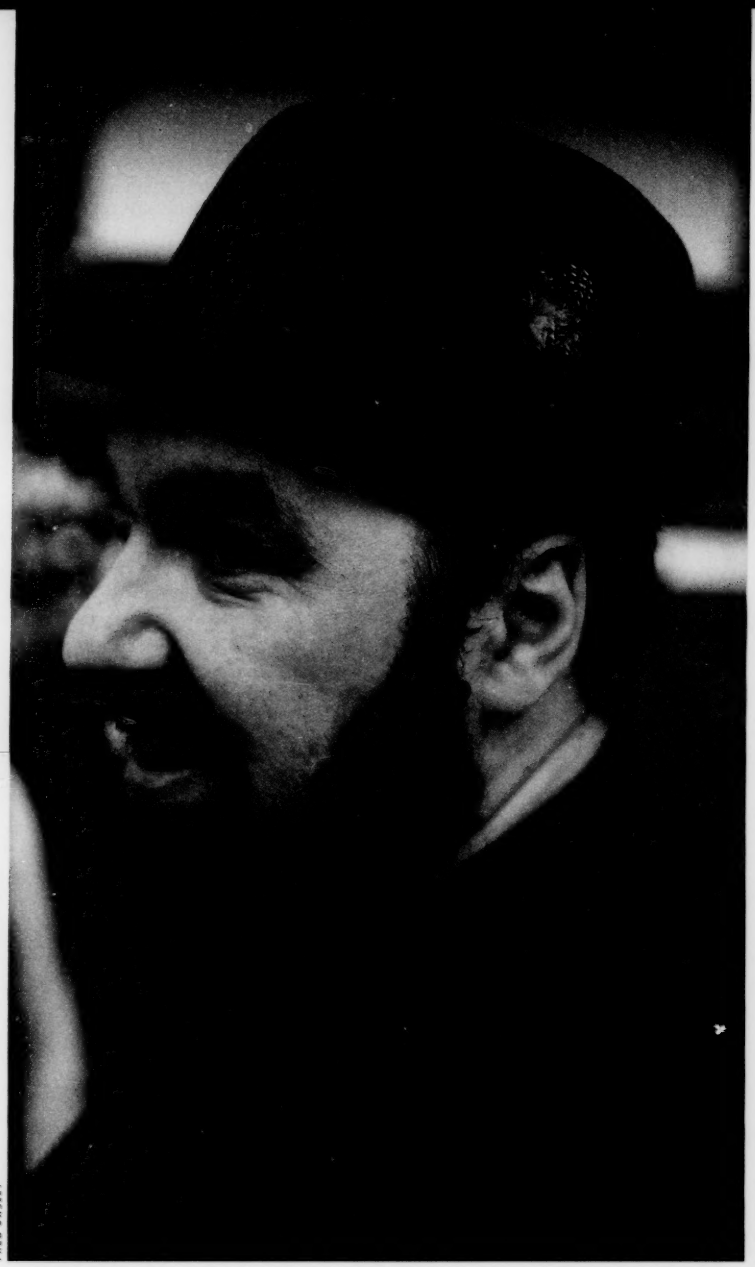
Favorite text adventure game: Colossal Cave, a.k.a. Adventure, the original text adventure game by Will Crowther and Don Woods.

Favorite movie: *The Wizard of Speed and Time* (released in 1988)

Role model: Steve Wozniak

I'd do anything but: Destroy history.

What most people don't know about me: I wore a cow suit in Harvard Square [in Cambridge, Mass.] and drew caricatures until new state laws made it too expensive.

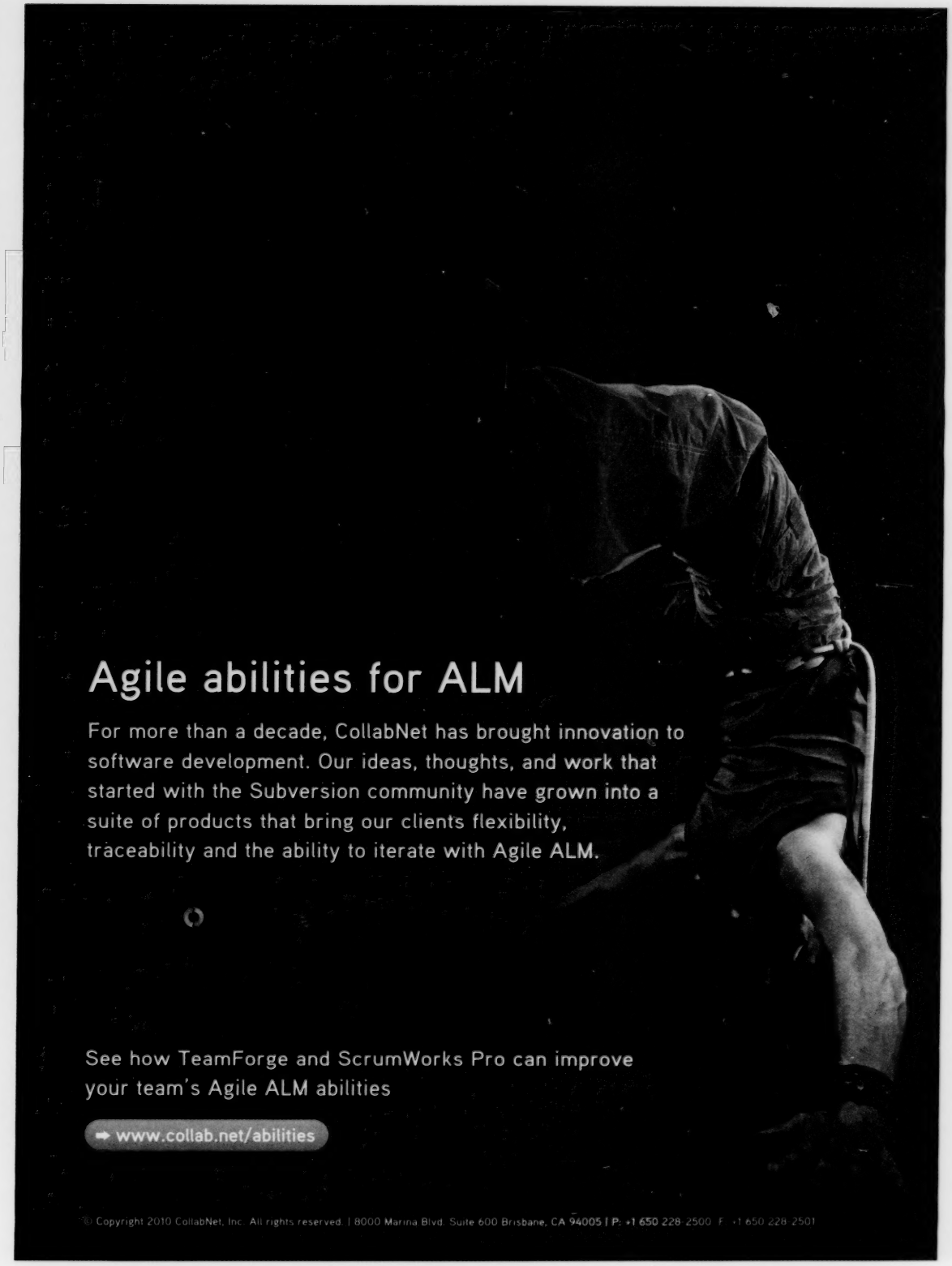


FRED OWSLEY

DIGITAL HISTORIAN *Jason Scott has an eclectic portfolio. At Textfiles.com, he collects files and related materials from the era of dial-up bulletin-board systems. That work led him to create* BBS: The Documentary, *an eight-episode miniseries about the early history of online culture. His second documentary,* Get Lamp, *set to debut this week, examines text adventure games through interviews with developers, designers and players. Even if you've never heard of Scott, you might have heard of his cat: Sockington, the most-followed animal on Twitter, has more than 1.5 million followers.*

How would you describe text adventures? I think of a text adventure as a computer game with a text interface that describes a location and asks you to type in what you should do next. If someone reads it to you, can you still [understand what's going on]? If you can, it's a text adventure. If you can't, then it's a graphic video game.

Continued on page 8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JASON SCOTT

People think Facebook is an unstoppable juggernaut and we have to fight. But something better will come.

Continued from page 6

Text adventures are no longer a financially viable form of entertainment. What caused them to fade into history? The idea of exploring a world, trying to figure out the meaning of that world, pull out answers from it and solve a quest was readily taken over by graphic adventures. These companies didn't ask how they could improve text adventures, so they lost money and got bought out.

Where can we find influences of text adventures today? Everything in which you are presented with a quest and must figure out — through skill, wit or luck — what you are there for, what you need to do and how to do it is a descendant of text adventures. A lot of what we consider "sandbox" games, like Grand Theft Auto, are good examples. If you look at text adventure contemporaries, you find games in which you can turn in four directions and shoot at a ship. Compare that to one that gives you a description, asks you what you want to do next, and you can type anything. That's what made them so innovative for their time. It was a completely foreign and mythical idea.

Your Web site, Textfiles.com, preserves and publishes historical content. How do you balance respecting copyrights and preserving history? I generally violate the copyrights of obscure material whose pedigree is lost or which obviously was never part of a money-making entity. The core of a lot of my stuff comes from an era when it was impossible to track back the origin. In the case of "abandonware," there are three layers: duplicating it for your own use, duplicating it to sell it and duplicating it to distribute it widely. I have very little problem with the first, I flip out over the second, and I go back and forth on the third. That's why Textfiles.com has no ads.

You recently purchased a physical storage unit, dubbed the "Information Cube," to house historical software, magazines and the like. Yet in this digital age, access to physical data is limited. What's your plan for this cube? The hardest thing for someone to do with history is be there when it happens, so I'm trying to be the guy from the future who travels back to the past, grabbing journals and magazines. There's a lot of data that we don't know needs to be saved. The only reason this stuff isn't already in a museum is because museums haven't expanded for them yet — but all indications are that they're going to.

My goal is to digitize [the contents] or give it to a more appropriate archive. Right now, it's relatively trivial for me [to store the materials]. And to get what I have online, I need the original hardware — and even that is getting easier: It wasn't until February 2010 that a USB 5.25-in. floppy controller card came out. We never know what's going to come along.

In late 2009, you successfully used the online funding tool KickStarter to raise $20,000 to make digital history your full-time job. How do you intend to make your vocation self-sustaining beyond that initial investment? I've tried to be aware of what people were paying me to do, and I've tried to be careful not to be either wasteful or nonproductive — but the problem is that a lot of my stuff was slow-simmering and is now coming to a boil. Once *Get Lamp* is a sold product, I expect it to support me for the next year or so.

Facebook, Wikipedia and even Apple's iPad have recently gotten some bad press for being centralized services under the control of a single entity. Where is all this headed? People think Facebook is an unstoppable juggernaut and we have to fight, because if we don't, it'll always be like this. But something better will come. It's really bad to flip out, as if this were life and death. At the same time that there was the Altair and the Atari 800 and the Apple II, we still had the Atari 2600 and the NES — two completely closed systems that worked dependably. We lived with it, it was fine, and now they're gone and there are other things.

So yeah, Facebook is pretty terrible with privacy, and I'm bothered by the number of people who happily defend ease over freedom. But Facebook won't survive more than another five years in its current form. Look at MySpace or Friendster or Orkut. There's a lot of space in the ecosystem.

Is your tweeting as Sockington a parody of Twitter? The constantly updating format allows him to make cultural references that are clichés on Facebook or Twitter, but that comes from doing three jokes a day for three years.

– *Interview by* **Ken Gagné**

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OPINION

JOHN D. HALAMKA

For Everything There Is a Process

When you're asked to be Solomon, it's important not to counter emotion with more emotion.

HOW SHOULD CIOs react when asked to play Solomon? It happens fairly often. Points of contention develop within the IT ranks, or between IT and the business units, escalating until they reach the person in charge. When it happens, remember that there is a process for every situation, no matter how emotional or urgent. Here's my guidance:

Escalated issues are usually complex and difficult to resolve by e-mail. This means that you either pick up the phone or schedule a quick meeting with stakeholders. It's generally best to schedule such meetings rapidly to prevent further misunderstandings and angst. At the meeting, your role as the leader is to listen and accept responsibility, even if the situation is not directly caused by you or your staff. When I have challenging conversations with vendors, I'm always impressed by CEOs who take an active role in problem resolution even when responsibility for the root cause is not clear.

Build a reasonable path forward. The challenge of being a leader is that demand for resources — staff time and budgets — always exceeds supply. I have to be careful not to overpromise and underdeliver. Thus, I'll work with the stakeholders to develop reasonable next steps that include short-term wins, governance committee discussions, and phased delivery of solutions in the long term.

Instead of saying "No," say "Not now." Sometimes it's tempting to just say no to a request that sounds unreasonable, untimely or unstrategic. A better approach is to submit the request to a governance committee, so that the prioritization will be done by a group representing many institutional interests. The committee's answer might be "Not now, but we'll put it in the queue," which is more satisfying than "No."

Be the honey, not the vinegar. It's easier to persuade people if you use polite arguments and flattery than if you are confrontational. As a CIO, I have complete accountability for all IT-related issues, but I don't have blanket authority. It might seem great to be a benign dictator who could just say "Make it so," but even benign dictators can be overthrown. It's wiser, then, to use informal authority, build trust, create consensus and develop a guiding coalition. I do that with humor, optimism and enthusiasm. Doing it by yelling, intimidating or exercising formal authority might work in the short term, but it destroys trust and loyalty in the long term. I've been a CIO for nearly 15 years, and I think that's because I always use honey rather than vinegar.

Don't throw people under the bus, especially your own staffers. I've known many leaders who are quick to place the blame on someone else as a way of deflecting responsibility. It's always awkward to be in a meeting when someone, often without warning, is identified as the root cause of a problem. To me, people are rarely the root cause — it's the project management and the governance that were flawed and enabled people to do the wrong thing. Thus, I never shoot the messenger or point fingers. Instead, I ask how we can all do better by changing the way we work.

Every day, I have several challenging meetings. I know that there will be confrontations, tough questions and even misunderstandings based on incomplete information. However, going into every meeting, I know there is a process to resolve every issue without requiring me to counter emotion with more emotion. ◆

John D. Halamka is CIO at CareGroup Healthcare System, CIO and associate dean for educational technology at Harvard Medical School, chairman of the New England Health Electronic Data Interchange Network, chairman of the national Healthcare Information Technology Standards Panel and a practicing emergency physician. You can contact him at jhalamka@caregroup.harvard.edu.

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Nominations in this category demonstrate successful applications of cloud or software-as-a-service-based BI solutions to achieve more measurable business value, better return and/or faster deployment than on-premise alternatives.

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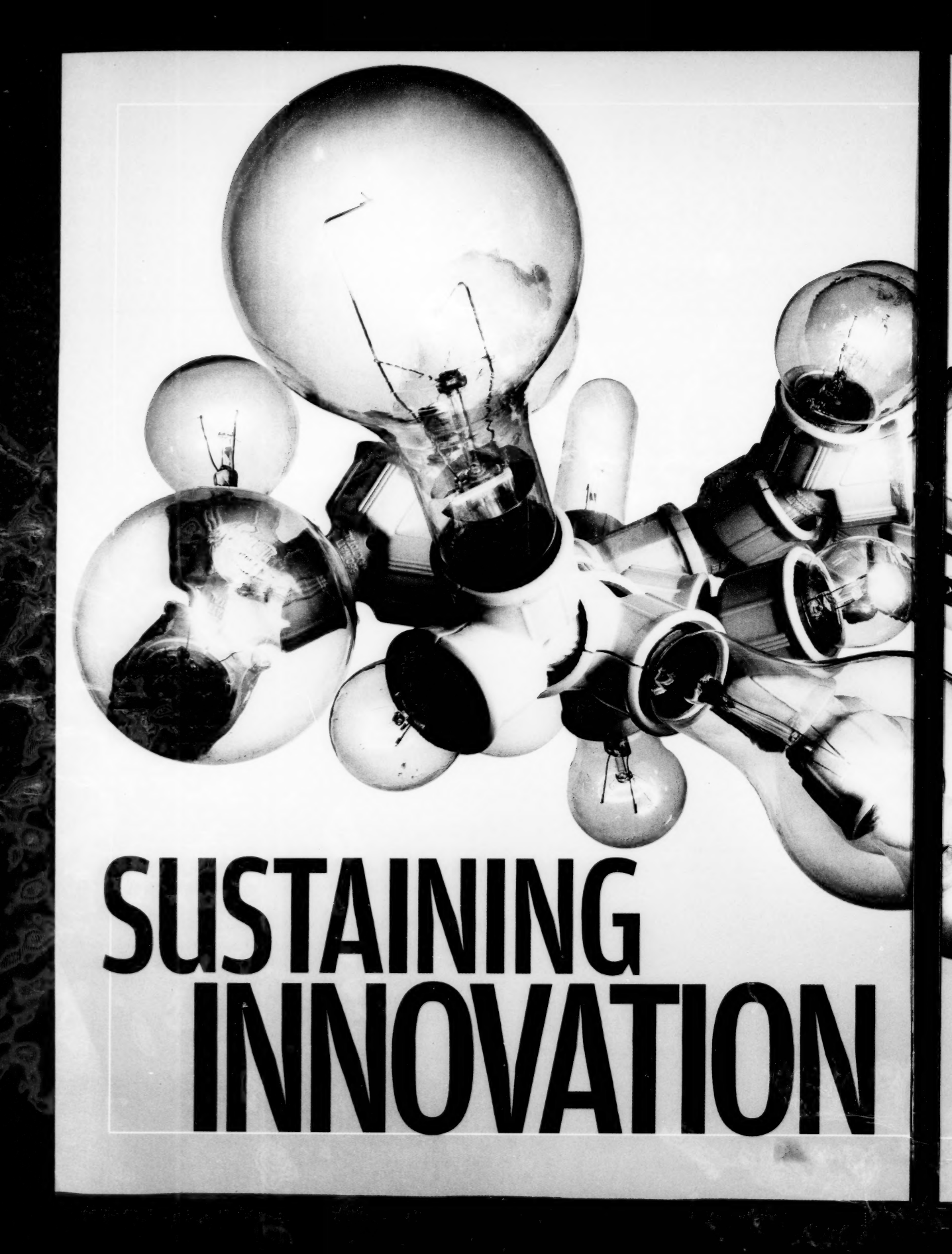
SUSTAINING
INNOVATION

How top IT organizations make sure they're not one-hit wonders.

BY MARY K. PRATT

THERE WERE NO BIG BRAINSTORMING SESSIONS, rah-rah team meetings or executive committees convened to devise a plan to drive FiOS TV customers away from using call centers in favor of self-service ordering, the more cost-effective option.

Instead, a junior programmer came up with the idea to build a click-to-order option that viewers could use instantly with their remotes. The programmer approached his manager and got the OK to build a prototype, which he delivered within months.

The click-to-order feature, which started rolling out in 2007, boosted self-service orders from 5% to 55% in just one month, cutting costs and inspiring click-to-order uses in other areas of the FiOS lineup too.

"He hit a gold mine," says Shaygan Kheradpir, CIO at Verizon Communications Inc.

Kheradpir says the junior programmer's ability to run with an innovative idea wasn't a fluke; Verizon's IT shop is designed to enable that kind of innovation to happen again and again.

"The underlying mission for Verizon IT is to look for opportunities where IT can make a quantum leap in performance for the business," Kheradpir says.

IT leaders at other companies share Kheradpir's outlook. The keys to making innovation a sustainable process, they say, include understanding the business inside and out, setting up a team dedicated to trying new ideas, and not being afraid to fail.

Verizon Communications

For Kheradpir, innovation in IT is all about giving workers opportunities to see and develop ideas that they think can make a difference in the company's business, whether it's in product offerings, customer service or cost control.

But to do that, Kheradpir says, his staffers can't be isolated from the employees working in the company's other divisions. So he sends his teams into the field to see how their business-side colleagues do their jobs.

"You're going to dream a lot better stuff if you're side by side with the front line — in the call center, in the stores, in the trucks, doing installations in people's homes," Kheradpir says. "That's where you see the real problems and opportunities. And that's where you can make a difference."

Indeed, the junior programmer who developed the click-to-order function had been riding around with a technician doing home installations, which gave him the opportunity to ponder how to make FiOS TV installations more effective.

However, Kheradpir acknowledges that an IT organization has to do more than allow inquisitive programmers insight into operations if it wants to capitalize on breakthrough ideas.

To that end, Verizon has established a way to follow up on innovative proposals, he says. Workers are encouraged to take their ideas to their supervisors, who are expected to help build on them. If it looks like an idea could work, the process keeps going.

STEPHEN WEBSTER ILLUSTRATION

Workers form partnerships with their connections on the business side, and they develop plans with milestones that allow the team to learn and correct as they go.

"We ask, 'Tomorrow, 8 a.m., what are we going to do different? What are you going to show me next week? So we give them a little bit of leeway and see what they can do," Kheradpir says. "So through this process, if they keep going and we see some proof of concept and we see it's a big idea, we start to give more resources and really blast out the thing."

Kheradpir calls it "disciplined innovation with focus and accountability."

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Jeffrey Pattison says that when he started as CIO at Inttra Inc., a Parsippany, N.J., company that provides e-commerce systems to the ocean freight industry, he inherited an IT group that was "innovation-averse." The staffers felt their main job was "to pump transactions through."

But Pattison wanted a staff that wasn't afraid to stretch, so he established some new expectations and policies to support innovation. He let his staffers know that they didn't have to have all the answers to start working on an idea. He let them know that they could make mistakes and recover. And he created a special R&D unit charged with mocking up new possibilities.

"That's how you encourage innovation," Pattison says. "It's in how it's staffed, how it's organized, how it partners with the business."

He says one of the most important steps has been the creation of a separate group of about 10 workers who are freed up from routine responsibilities. "You really need to have an R&D department, so when they have an idea, we have the bandwidth to model it out and mock it up," he says. "Because if you don't protect your innovators from the day-to-day stuff, you won't be able to innovate."

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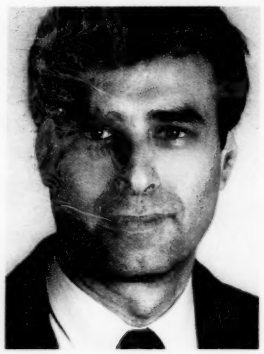

But Pattison says his promotion of innovation comes with some checks. His innovators have some leeway, but they also need to focus on delivering innovations that drive business results. "You can't innovate in a vacuum, not in our industry. So you have to look at what is the end goal," he says.

To help ensure that that happens, the IT innovators partner with others in the business to better understand where changes and improvements are needed. For example, they recently met with international shippers to evaluate what's needed in a new electronic freight payment settlement program that's in the works.

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"There are millions of things right in front of our noses that we accept every day, and someone will come in and say we don't have to do it that way, and it will be an a-ha moment. And after that it will be wave after wave of innovation," says Ian Hayes, president of Clarity Consulting Inc. in Beverly, Mass.

But Hayes says many IT organizations aren't set up to allow for innovations. Often, staffers are so mired in the daily grind that they just focus on getting through.

"Most IT departments are so far away from being able to hit home runs, and this economy made it worse because of all the cutbacks. So you may occasionally get someone who has that great idea, but everything is set up for them not to," he contends. "And then the organizational stuff – the 'We don't want a distraction right now' – serves to push that innovative idea aside."

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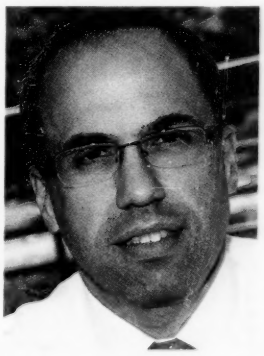

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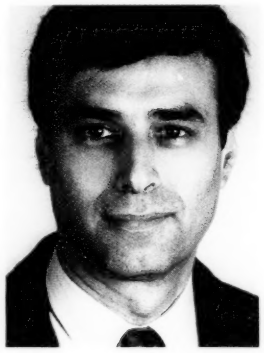

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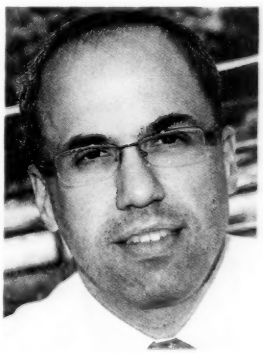

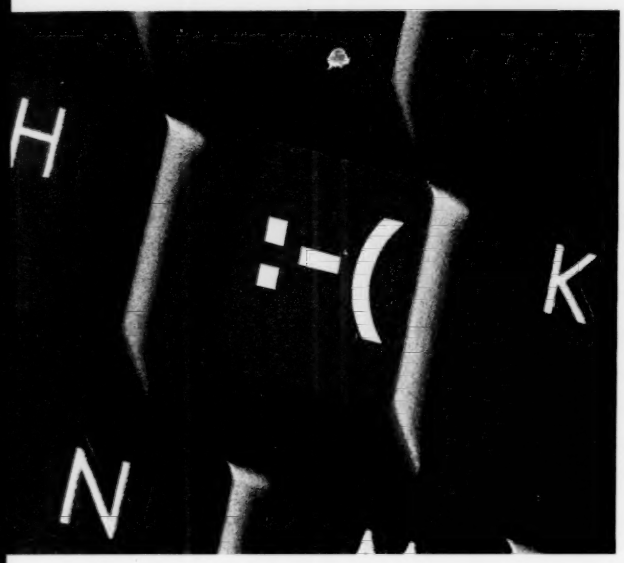

WHEN good PROJECTS GO bad

Conflicted feelings are common when big tech projects go awry. Group hug, anyone?

BY MICHAEL FITZGERALD

DANA B. HARRIS still remembers the loss he felt when his project was canned — and it happened 20 years ago.

Harris was working on sonar acoustics software for the U.S. Navy's Arleigh Burke guided missile destroyers. It was highly advanced, mathematically challenging software, and Harris "was really into it, really excited about it."

But 1990 was a bad year for the defense industry. The Cold War was ending, and a diminishing threat meant diminishing budgets — and, ultimately, a diminished project. Abruptly, Harris' part of the initiative was shelved.

"That was pretty depressing," says Harris, who now works at IT services provider Computer Sciences Corp., where he is manager of CSC client United Technology Corp.'s global program management office. "Not having the excitement of developing that kind of software, it was like I'd lost something. I remember that feeling very, very clearly."

It particularly pained Harris that his team's work was simply junked. "Our efforts, our work, were just cut," he says.

Stung by the cancellation, and worried about the health of the industry, Harris wound up leaving defense entirely to start a business working on commercial application software.

It's hard not to get emotional when lengthy, high-profile technology projects are unfairly killed, mercifully euthanized or launched with flaws.

"A lot of your job satisfaction comes out of seeing your product go live, being used by your business and customers," says Ken Corless, executive director of enterprise applications at management consultancy Accenture PLC. "If you've been on something for 19 months, working 80-hour weeks for six months, and you're supposed to go live in six weeks and the rug gets pulled out, you feel pretty bad."

Talking It Out

The problem is, when IT people feel bad, they tend not to talk about their feelings.

If companies were *Star Trek*, IT would be Spock, or so goes the myth. And that myth does have some basis in fact, says Bill Hagerup, a senior consultant at Ouellette & Associates Consulting Inc., a Bedford, N.H., firm that offers guidance about matters related to the human side of IT management. In general, techies "tend to give short shrift to people's feelings," he says. "I know I'm stereotyping here, but our strength is thinking. We're great problem-solvers; we tend to forget feelings."

Hagerup, who spent years in corporate IT, distinctly remembers his depression over a long-ago project that failed to meet expectations. He was a lead analyst on a project at a health insurer, working long days and weekends. Despite the extra effort, the project timeline was simply too short, and what his team delivered at the deadline was about 60% of what the business expected.

There was no joy in IT-ville, not even an "attaboy" for the effort, Hagerup says. Some negative feelings about a poor outcome were probably inevitable, but it would have helped if there had been some empathy for the IT team, he says.

He wishes IT management had sat down with his team and let them talk through their anger at the unreasonable deadline and the lack of support. Even some simple words of appreciation for their efforts would have been a big help, Hagerup says.

As his group eventually proved, the project's scope was too large

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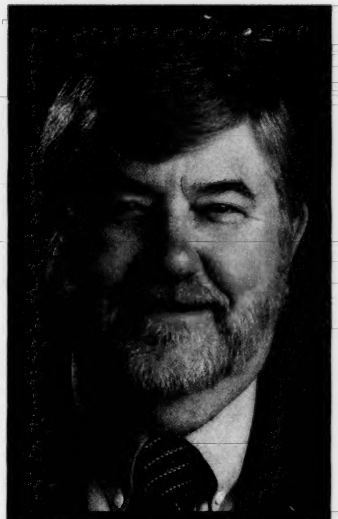


FISHER: Do your homework, set goals, avoid negativity, and pull together.

PEER PERSPECTIVE

WHAT FAILED PROJECTS CAN TEACH US

JOHN F. FISHER, chief value officer at NET(net) Inc., a software contracts adviser, learned some valuable lessons years ago when he had to pull the plug on a failing attempt to build an international banking platform for the former Continental Illinois bank. Here's his advice:

Push for due diligence at the start of a project. Fisher's team discovered after the fact that other banks using the same development software hadn't been able to get past the first phase of their projects. That should have been a red flag that the software was more of a tool kit than a full-blown development platform.

Set early milestones. That way, you can flush out potential bad bets in vendors before too much time and money have been invested in them.

Watch out for negativity. "Once people get negative on a project, it becomes a force multiplier," Fisher warns. Remind skeptics that once a project has been signed off on, "they need to get on the bus."

Don't let your project fail before its time. Team members can become discouraged if the project runs into bumps. Fight that by refocusing people on specific pieces of the project. "You pull together, you all move forward, you get it done, and it's a success," Fisher says.

– MICHAEL FITZGERALD

> **"[Techies'] strength is thinking. We're great problem-solvers; we tend to forget feelings."**
>
> **BILL HAGERUP,** OUELLETTE & ASSOCIATES

for its initial deadline. Failing to complete it on time shouldn't have generated such a pervasive sense of disapproval, yet it did.

Hagerup and his team, which numbered about 10 people, went into a techie variation of the classic Kübler-Ross grief cycle — denial, anger, bargaining, depression and acceptance — spending several productivity-sapping weeks in the depression phase.

By talking informally at lunch and commiserating over beers on Friday nights, "gradually, we came out of it," Hagerup says. "We circled the wagons a little bit, took strength from each other and reminded ourselves it wasn't our fault."

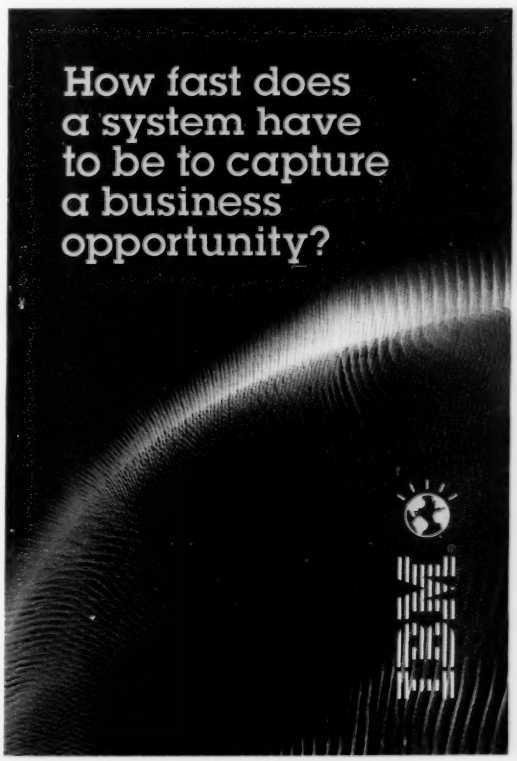
Over time, Hagerup's team even got the project close to achieving its initial goals, though they never got credit for it, he adds.

He thinks his team would have come out of its funk faster if managers had talked to them about what had happened and how they felt about having their project regarded as a failure. But that reaction "is just not in the playbook of the typical CIO," Hagerup says.

Taking the News Hard

Projects that are killed when business needs change might seem like the easiest for team members to shrug off, since it's no one's fault.

But in fact, "people take it pretty hard" when a project that's going well is killed anyhow, says John F. Fisher, a former CIO



A FAILURE TO COMMUNICATE

EVERY KILLED or troubled project has its own particular tale of woe. Some suffer because of unforeseen events – the end of the Cold War, an economic downturn, a merger, a shift in business priorities.

Some founder because of a bad combination of technology, ambition and skills. But whenever projects stumble or even die, and people feel wounded, it usually has something to do with that most persistent of people problems: communication.

Michael Krigsman, CEO of Asuret Inc., an IT project management consultancy in Brookline, Mass., sketches out a typical chain of miscommunication that often plagues problem IT projects:

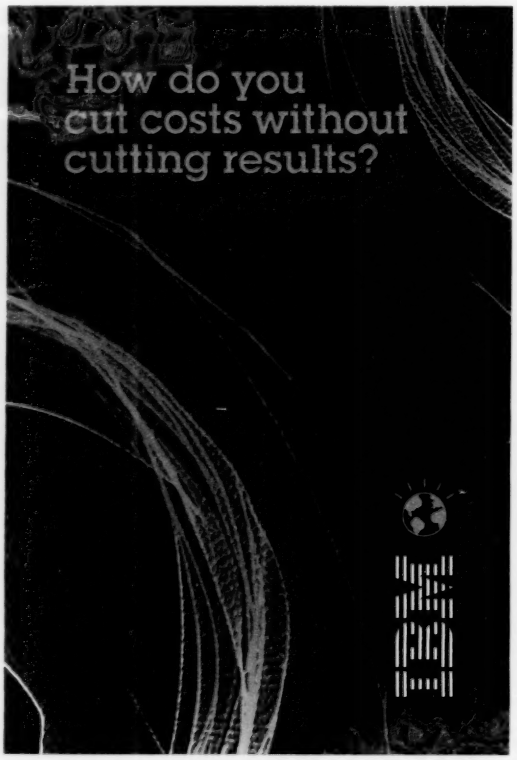
- **Team to project manager:** "Have you seen this deadline? We couldn't finish if we worked without sleep from now until then."
- **Project manager to CIO:** "The project has some, um, issues. We're, uh, going to need more time."
- **CIO (wagging finger):** "Make it work."
- **CIO to business side:** "I've spoken to the project manager, and the team knows they have to get it done."

"The implication is, 'If you don't make it work, we'll fire your sorry ass,' " says Krigsman. Once a top manager refuses to budge on a deadline, a series of Dilbert moments typically follow, as IT people carry on as though nothing is wrong until the project's impending failure becomes impossible to ignore.

In particularly dysfunctional IT organizations, Krigsman says, groups then engage in a game of "project-failure chicken," each vying to *not* be the first to admit they can't make a deadline. Where multiple departments are unable to meet the project goals, the one that blinks first often takes all of the blame for the failure. "So one side is unhappy, and the other side is gloating," Krigsman says.

Emotional finger-pointing is "uncalled for, unprofessional and unnecessary," says Dana B. Harris, manager of United Technology Corp.'s global program management office, who oversees multiple programs that encompass some 202 projects. A better solution is a smart postmortem – his company uses a root-cause analysis process – to show where the project failed and determine rationally what steps to take to avoid future mistakes.

– MICHAEL FITZGERALD



> **Emotional finger-pointing is uncalled for, unprofessional and unnecessary.**
>
> **DANA HARRIS,** UNITED TECHNOLOGY CORP.

who is now chief value officer at NET(net) Inc., a software contracts adviser based in Holland, Mich. "They feel like, 'Could I have done something better? How could we make it work for the business?' Well, you can't. And that frustrates a lot of IT people."

And then there are the big, troubled projects that need to be put out of their misery. Emotions run higher on projects seen as significant, Fisher observes, and the prospect of being out of a job amplifies the anxiety.

In the mid-1980s, Fisher was involved in putting the brakes on a two-year project to build an international banking platform to enable the former Continental Illinois National Bank to update its European operations. He was European systems manager at the time, and he came on board after the project was already under way. Despite moments of glory when things looked promising, it became clear that the platform lacked several essential features and that the project's 45-member team wasn't going to be able to fix the problems cost-effectively.

Fisher recommended pulling the plug. "We were all committed to getting it done, and we had a lot of conversations about whether we could we save it," he recalls. But the answer, in the end, was no.

"It was a very difficult decision; it had an impact on a lot of

the people," Fisher says. He had to lay off about a dozen contractors in London, the project's base, and junk a data center, since the system was built to run on Prime minicomputers purchased especially for it. Nobody from Continental's IT staff lost their job, though some people on the business side did.

As for Fisher, "I felt good at the time," he recalls. He was, after all, saving the bank money and time. Later, though, he realized that he and the remaining members of his group were tainted. They weren't added to the team working on the new system, even though they had gained what could have been seen as valuable experience.

He received a much lower end-of-year bonus than he had in previous years, despite no drop in the bank's overall financial performance, and some of the team members were shunted to less interesting, lower-profile assignments for a time.

Falling on Your Sword

When she was running IT at a law firm, Sharon K. Gietl signed off on a LAN upgrade, even though it involved some brand-new technology from Cabletron. Her network manager was excited by the technology and was an enthusiastic backer of the project.

But the equipment wasn't working, and the network kept failing. "After a month of trying to make it work, with the lawyers ready to throw IT people out the window, we pulled the plug," says Gietl, now CIO at The Doe Run Co., a metals and natural resources provider in St. Louis.

She fell on her sword, telling her managers that IT had made a mistake by picking an untried technology, and she outlined a new approach that included an Ethernet backbone. Cabletron agreed to provide new equipment at no additional charge and to help install it. She demoted the network manager, who later left the firm.

While morale in IT was terrible during the project, she says there wasn't much in the way of postproject depression. "They were happy that we had a network that worked," says Gietl. Her transparency eased some of the tension, Gietl feels, and though the lawyers joked pointedly about "computerless Fridays" for a while, having a network that worked well proved to be the best salve for the failed-project wound.

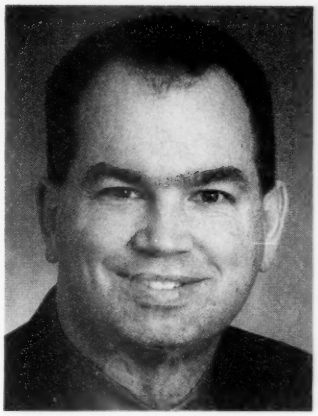
Accenture's Corless would applaud Gietl's forthright approach. IT management can best help its employees by dealing with dead projects directly and quickly.

"Rip the Band-Aid off — tell people live and in person," he advises. "Don't shift the blame by saying something like, 'I wouldn't have canceled it, but this is what the COO wants to do.' That says you're not part of the leadership team." Such managers lose a chance to build credibility and rapport with their teams.

On the other hand, managers need to be careful about plumbing feelings right after a project has failed. "You'll get tempers flaring. People aren't thinking straight," warns Jim Johnson, chairman of The Standish Group, a Boston-based IT research firm that produces an annual report on failed IT projects called the "Chaos Summary."

Johnson advises IT managers to wait a couple of weeks before sitting down with staff to assess what went wrong. But don't wait too long; if you do, people may already have rationalized what happened or forgotten what went wrong.

In the end, managers need to remember that what gets IT people going is the chance to learn new things and develop new skills, says Corless. To that end, the best way to help employees



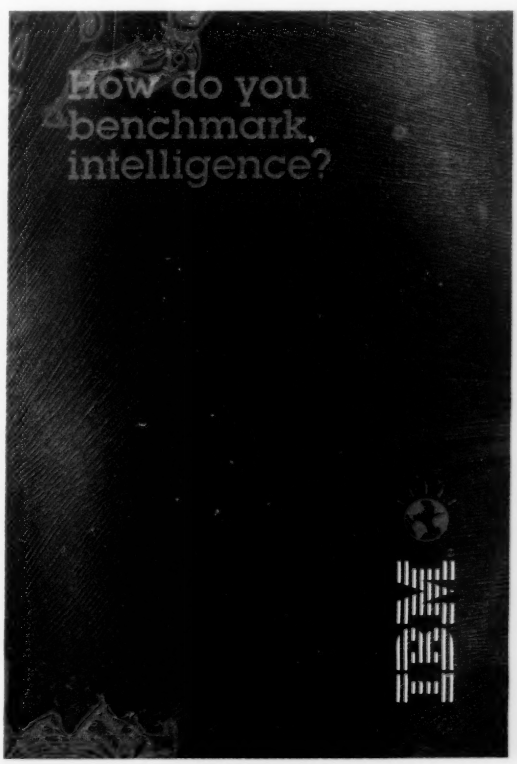
"Rip the Band-Aid off — tell people live and in person."

KEN CORLESS, ACCENTURE

grieving over a dead project is to "quickly get them into [another] meaty and interesting role," he says.

Wise managers will gently remind staffers that there will be other projects and that they can learn a lot of lessons from troubled ones. "These projects teach you to be adaptable, to deal with frustrations, resource shortages, and so on," Corless says. Project failure may not be fun at the time, he adds, but it doesn't have to keep a good IT person down. ◆

Fitzgerald *is a freelance writer based outside of Boston.*



Visualize FIRST, Build Later

WHEN BUSINESS ANALYSTS asked Jan Scheetz for a wish list of what she wanted in an electronic physician-order system, she wasn't shy about stating her requirements. The ideal system, she said, would generate a valid electronic signature from a physician, which is necessary to process insurance claims but often a challenge to obtain.

"This is something we were dreaming of for a long time," says Scheetz, the outpatient supervisor at MD Anderson Cancer Center in Houston. The new system will allow hospital staffers to treat an online consultation as a signed order generated by a physician.

Perhaps best of all, Scheetz and her colleagues got to see the system before it was even developed.

The hospital's technology team used a software tool called iRise, which allows enterprises to simulate and create images of what software applications will look like before actual development occurs. They aren't working prototypes; rather, they're "acting" applications with a finished look and feel, but with no coding behind them.

Simulation tools show users what applications will look like — before actual coding begins. **BY ESTHER SHEIN**

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> **[For] any app with a user interface, you've got to have a pretty compelling reason why you wouldn't use visualization on that project.**
>
> **MARK HILBUSH,** VICE PRESIDENT OF INFORMATION SYSTEMS, UNITED PARCEL SERVICE INC.

Scheetz and others in her department worked with business analysts at MD Anderson. They all used iRise to hash out what they wanted in the physician order system, and then, several months later, they could see the first version.

IRise is the flagship offering of privately held software vendor iRise Inc. in El Segundo, Calif. It's one of several products emerging to tackle the old problem of ensuring that software developers build what the business stakeholders really need.

"With increasingly scarce resources, there isn't any margin for error. So if there's a disconnect between what you create and what the business actually needed, the costs of failure are [more pronounced] in this economy," says IDC analyst Melinda-Carol Ballou.

That's where visualization comes in. Typically, developing a software application for beta testing can take months, even with newer agile development methods. But application visualization can be done within a matter of hours to give users some insight into what that system will look like and how it will work. It also allows for early discovery of whether a developer has missed the mark in terms of creating what the user wants.

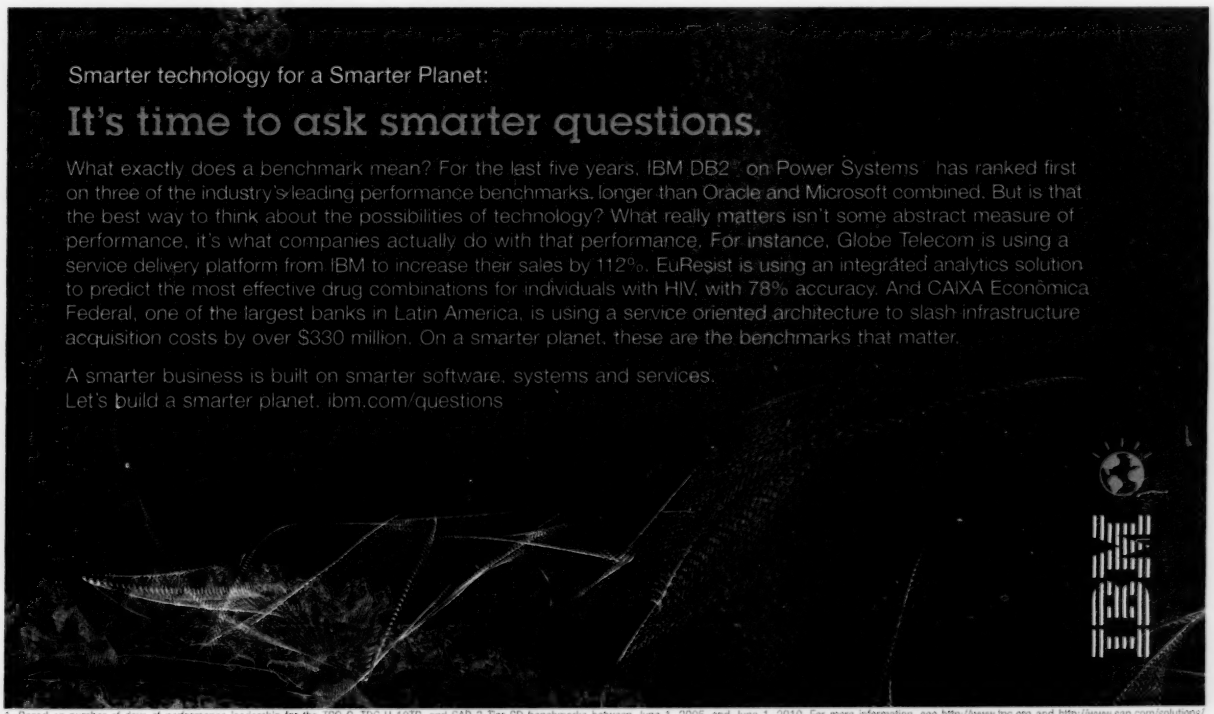
"There's an increasing awareness that this is a problem worth investing in, because people will waste a lot of time in cycles of redesign," says Tom Grant, an analyst at Forrester Research Inc.

However, he says the few tools that are currently available aren't widely used. The biggest challenge these vendors have, Grant contends, is the cultural issue of trying to get companies to move away from using applications like spreadsheets and PowerPoint to get users to articulate their requirements.

Modeling the User Interface

Mark Hilbush, vice president of information systems at United Parcel Service Inc., is a big believer in using tools to improve collaboration among developers and users. "The idea is to get as much [as possible] right upfront, and to try to work with business users in a way they can really understand what it is we're building together," he says.

Hilbush's group is building a Web-based application that will be used in UPS operations all over the world. Using iRise's Studio tool, IT has been able to model different aspects of the user interface, he says.


Smarter technology for a Smarter Planet:
It's time to ask smarter questions.
What exactly does a benchmark mean? For the last five years, IBM DB2® on Power Systems™ has ranked first on three of the industry's leading performance benchmarks, longer than Oracle and Microsoft combined. But is that the best way to think about the possibilities of technology? What really matters isn't some abstract measure of performance, it's what companies actually do with that performance. For instance, Globe Telecom is using a service delivery platform from IBM to increase their sales by 112%. EuResist is using an integrated analytics solution to predict the most effective drug combinations for individuals with HIV, with 78% accuracy. And CAIXA Econômica Federal, one of the largest banks in Latin America, is using a service oriented architecture to slash infrastructure acquisition costs by over $330 million. On a smarter planet, these are the benchmarks that matter.
A smarter business is built on smarter software, systems and services.
Let's build a smarter planet. ibm.com/questions
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1. Based on number of days of performance leadership for the TPC-C, TPC-H 10TB, and SAP 3-Tier SD benchmarks between June 1, 2005, and June 1, 2010. For more information, see http://www.tpc.org and http://www.sap.com/solutions/benchmark. TPC, TPC-C and TPC-H are trademarks of the TPC. IBM, the IBM logo, ibm.com, DB2, Power Systems, Smarter Planet and the planet icon are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at www.ibm.com/legal/copytrade.shtml. © International Business Machines Corporation 2010

More Ways to See User Requirements

IRise isn't the only requirements definition software product. Here's a sampling of other approaches:

- **Blueprint Software Systems Inc.,** based in Toronto, offers Blueprint Requirements Center 2010. The software suite helps developers define requirements using business process diagrams, mock-ups of user interfaces and simulations.
- **RavenFlow,** a private company in Emeryville, Calif., offers visual requirements definition software that's designed to parse English-language text to generate requirements. The software is also set up to identify errors and missing requirements.
- **Microsoft Corp.'s** Visual Studio 2010 Ultimate is a set of application life-cycle management tools designed to handle tasks at every stage, from design to deployment. And Microsoft's Expression tool provides an informal way to develop prototypes of user interfaces.
- For collaborative development, **IBM** is pushing its new Rational Jazz platform, which includes retooled Rational products. Tools in the Jazz family include IBM Rational Team Concert, Rational Quality Manager, Rational Requirements Composer, Rational Asset Manager and Rational Insight.

"We were able to put the visualization in front of users who are across the United States and Europe and the Asia-Pacific region, and [iRise] allowed us to get many more people involved in the requirements process than would normally be involved," Hilbush explains.

Not only has the tool enabled IT to quickly uncover requirements that management may not have articulated, but it also has allowed Hilbush's group to get direct feedback from people who are going to use the system on a day-to-day basis. "The last thing you want is to get to alpha or beta or user testing and find out you've missed the mark on a few key requirements," he says. "That's the power of visualization — it lets you do that very early in the life cycle."

For this global project, a big benefit was that non-English speakers could see the prototype to make sure key requirements weren't missed. Previously, when requesting comments from international users in a requirements document, things would inevitably get lost in translation, says Tony Baldassari, a senior project manager in UPS's package project management group. But sending out a prototype lets people visualize what the new system will look like and therefore helps ensure that it's built correctly from the start, Baldassari says.

UPS's new application, an international operations processing system to clear shipments from country to country, has been reviewed several times. People have been able to see all of the visual parts, including screens, links and how they would navigate through the pages, says Baldassari.

Once users put their comments into iRise, his group gathers the feedback, consolidates it and reworks the design before sending out another round of screenshots for viewing. "It allows us to iterate very quickly and get feedback and comments and, if needed, a Round 3. By the time we've done that, we're pretty confident we have very good buy-in from all the users," says Baldassari. "We finalize that with IT, and it saves time in the development cycle."

UPS uses iRise as part of the requirements-gathering process for systems that will be used inside the company and for customer-facing Web applications. It works well on just about any type of system that has a user interface, Hilbush says, and in 2009 it was used on 43 projects out of 47 that were identified as potential candidates for iRise.

"Our philosophy is if you have a Web application or a Windows app — or any app with a user interface — you've got to have a pretty compelling reason why you wouldn't use visualization on that project," says Hilbush.

While he declined to give specifics on the cost of implementing iRise, Hilbush says UPS has seen a return on its investment in the software, because in projects in which it was used, there were fewer changes during the project life cycle and fewer defects later on in development.

Lessons Learned

At MD Anderson Cancer Center, officials used iRise to develop an electronic medical records (EMR) system called Clinic Station. As a hospital specializing in cancer care, MD Anderson found that out-of-the-box EMR systems with predefined requirements did not meet its needs, because those packages are designed for acute care centers, says Sherry Preston, business analyst manager of MD Anderson's EMR development and support team. The hospital spent about eight years trying to get three different EMR tools customized, but none worked. "The bugaboo is the workflow," she notes.

So hospital management decided to develop its own unique system and train clinicians like Preston — who understood the nuances of nursing, pharmacies, labs, X-rays and medical records — to become business analysts and work with end users on getting input on the different modules that they wanted to interact with Clinic Station. "It was important because we had to be able to document and elicit requirements and understand the workflow of each corner of the hospital," explains Preston, who worked as a nurse in MD Anderson clinics for 26 years.

Preston estimates that the hospital spent less than $300,000 to purchase iRise. She says there is very little about the tool that users don't like, but learning how it works takes a significant amount of time, and "if you don't use it, you will lose it."

Another lesson learned: Preston says the iRise software required MD Andersen to buy extra memory for business analysts' laptops. It was important to deploy iRise on laptops, because analysts generally use the iRise software in meetings with users. The need for more memory "caught us by surprise," Preston says.

UPS's Hilbush emphasizes that "you need to do the iRise simulation as early in the development cycle as possible" and make sure business users, business analysts and developers are involved. "If done well, the process is very open and collaborative," he says.

MD Andersen has cut about 25% off of its overall development time by using simulation, says CIO Lynn Vogel. "Our dream would be if simulation would generate all the code. But that's a very difficult process. Coding is as much an art as a science." ◆

Shein *is a freelance writer and editor. Contact her at eshein@shein.net.*

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Security Manager's Journal

MATHIAS THURMAN

Offshoring: What Can Go?

Our security manager is willing to outsource some things, but others are simply out of the question.

I'VE BEEN asked to send more of our security services offshore, and that request has me thinking about what I would be comfortable with outsourcing and what I would never want to risk putting in the hands of a distant provider.

It's difficult to counter the cost argument for offshoring. India is the lowest-cost region that has reliable network connectivity, a workforce that is proficient in the English language, a favorable tax regime and a stable government. Since it is also safe and easy to get to, India is our offshore location of choice. And in India, we can get three security engineers for the cost of one in the U.S.

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Currently, we offshore the management of security patches. Analysts in India continually monitor Microsoft's security updates, third-party sites and forums that discuss vulnerabilities and recommended security patches. The analysts apply predefined criteria to figure out whether a particular operating system or application patch is relevant for us and determine the risks of applying the patch or not applying it. They then provide us with the patches that they deem necessary to our desktops, servers and network so we can install them during our maintenance windows. If the patches are critical or need immediate action, they are escalated accordingly. All of this has been working quite well.

But there are some things that I would simply refuse to offshore. For example, investigative work, such as forensics or anything that would require administrative action against an employee or other company, is just too sensitive to be handled out of house. I also feel uncomfortable offshoring the administration of our data leak prevention infrastructure, because DLP devices contain some of our company's most critical data. I'd rather keep control of such information in the U.S.

But other things do make sense. Intrusion detection is one example. Intrusion-detection systems are not plug-and-play. They require updates, continuous tuning and careful response and analysis of events. I don't have the staff to properly manage our dozen IDS sensors, and I would welcome additional hands and eyes to do much of the work necessary to ensure a successful deployment. I might even consider a fully managed service in which the provider installs its own sensors. That way, we could increase our coverage to 100%; we're currently at just 70% of our network.

Another example is vulnerability management. We are evaluating Qualys to control the devices we use to scan our internal address space. Since the Qualys service is an Internet-facing application, I wouldn't mind providing access to a third party in India to run the scans and process the results on a regular basis.

Of course, if I hand off all of this work to third parties, I will still be responsible and have to answer to the executive staff should anything go wrong. For that reason, I will still conduct periodic audits of our service providers to ensure that they are meeting service-level agreements and statements of work.

"It's difficult to counter the cost argument, but there are some things I would refuse to send offshore.

Trouble Ticket

» More security services need to go offshore.

» Think carefully about what can and can't be securely done from afar.

POP Update

In my previous column, I mentioned that I would be terminating POP and IMAP e-mail services because they pose a risk. As anticipated, there was some fallout, and I've had to make exceptions.

One is related to the e-mail of executives who serve on the boards of directors of other companies and want to download mail from those companies' e-mail systems into their Outlook clients here. The other exception is for the engineering collaboration sites that our engineers use as they work to improve our products. To accommodate the exceptions, we will make a rule in our firewall infrastructure to allow the outbound POP and IMAP connections to specific business-required sites. ◆

This week's journal is written by a real security manager, ***"Mathias Thurman,"*** *whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com.*

OPINION

PAUL GLEN

Dealing With Incompetent Peers Is Tricky Business

Every option, including doing nothing, carries a risk.

AS MANAGERS, we want to root out incompetence. If we find it in a subordinate, handling the situation probably won't be simple, but it will be straightforward. An incompetent boss demands a completely different approach, but at least you know who your allies are in that situation. The most difficult scenario might be dealing with incompetent peers.

It's a hazardous business. Any approach you take could backfire. These are your options:

Do nothing. Minding your own business might seem like a safe choice, but when your peer's ineptitude comes to light, it might become apparent to others that you knew about it but did nothing. So much for being a good team player.

Complain to some higher-up about the person. The boss might not know about the problem and might appreciate the heads up. On the other hand, she might not agree with you and could brand you a complainer, a tattletale or, worse, a schemer.

Bring the matter to HR. A savvy and helpful HR group might be able to help the person improve — or it could get rid of him. But it could also decide that the problem is really you. And if HR talks to your peer, he might have no trouble figuring out where the complaint came from. And, sadly, many HR organizations are ill equipped to effectively judge the competence of technical people.

Try to get the person fired. Engaging in office politics of this sort is a risky business. You might become a hero to your staff and peers for removing an obstacle to progress. Or you might become known as threatening and self-serving.

Each of those options has its risks. Before choosing a course of action, ask yourself two questions:

Are you sure? Remember that incompetence is not a fact, but an evaluation of a set of facts. You might not have a complete understanding of the constraints the person is operating under. You might weigh his weaknesses more heavily than his strengths. You might have totally different assumptions about work, technology or the world — ones that lead to very different conclusions. This question should spur caution and humility.

What do you owe the organization? Given the risks, why do anything? Is it really your business? If the person is affecting your ability to get your job done, then yes. And even if not, the person might be a waste of money at best, or others might suffer from his ineptitude. If the peer is a manager, his subordinates could be suffering but unable to do anything about it. The organization as a whole may be suffering. If the first question encourages inaction, this one promotes action.

If you decide to act, there is probably only one important rule to follow: Stick to the facts. When you discuss issues, focus on the specifics of the knowledge shortfall or behavioral problem, not on your evaluation of the person or, worse, your emotions about the situation.

This may sound simple, but it's not always easy to separate facts from interpretations and emotions. The best approach is to find a trusted adviser or peer and talk things through. Notice the language you use. If you are using words like *always*, *never*, *must* or *won't* (absolutes), you may be slipping into evaluation or hyperbole. Notice the emotional content of your statements. Are they calm and clear, or are they angry, sad, outraged or confused? Until you understand your own state of mind, you're probably not ready to act.

If you try to remain constructive and dispassionate, you have the best chance of navigating the situation effectively. ◆

Paul Glen is a consultant who helps technical organizations improve productivity through leadership, and the author of the award-winning book *Leading Geeks* (Jossey-Bass, 2003). You can contact him at info@paulglen.com.

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Career Watch

Tardiness Tales: 'My Dog Ate My Cell Phone'

BOSSES WERE HEARING EXCUSES for being late to work less often last year than they did the previous year, according to an online survey conducted by CareerBuilder.com. According to the poll of 5,231 U.S. employees, conducted in November 2009, 16% of respondents said they arrive late to work at least once a week. That's a drop from 20% a year earlier. Common reasons for workplace tardiness included traffic (cited by 32% of respondents), lack of sleep (24%), bad weather (7%) and preparing kids for school or day care (7%).

In addition, CareerBuilder asked hiring managers and human resources professionals to give examples of outrageous excuses for being late. Among the more unusual ones were these:

- I got mugged and was tied to the steering wheel of my car.
- My deodorant was frozen to the window sill.
- My car door fell off.
- It was too windy.
- I dreamt I was already at work.
- A roach crawled in my ear.
- I had to go to the hospital because I drank antifreeze.
- I had an early-morning gig as a clown.
- I saw an elderly lady at a bus stop and decided to pick her up.
- My dog swallowed my cell phone.

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ASK A PREMIER 100 IT LEADER

Ronald Pilcher

The CIO at **Varsity Brands Inc.** *answers questions about the hunger for new technology, kicking off a career and getting back into the workforce after a layoff.*

I'm getting worn down by working in bare-bones IT. Are we ever going to get back to working with interesting new technologies? Be patient, my friend. Multiple new technologies are right around the corner. Take note of what's in the pipeline, and think about problems in your business that those emerging technologies could address. Remember that only technologies that truly help the business are worth our time. We are notorious in this industry for wanting it all, but having it all isn't always helpful.

If you have a question for one of our Premier 100 IT Leaders, send it to **askaleader@computerworld.com**, and watch for this column each month.

I graduated with a computer science degree this year. I worked in tech support while I was in school, but I want to move beyond that. Which direction should I go in? The best choice would be in the engineering area. There is great demand in most of the larger engineering firms. This could consist of actual coding or systems integration.

I've been a programmer for 18 years, but I was laid off last year. I've always kept up with developments; even with no income, I've been buying tech books and taking some training. After nine months of some interviews and no offers, I'm getting discouraged. Do I need to do something differently? I would not change my direction. I know it's been very tough, but the market has been looking a lot better in the past few months. Kick it into overdrive and push your contact list, and if you're losing momentum from your current contact list, then go to local user-community meetings. Most cities have some sort of a mix of these.

51% **Percentage of workers laid off in the first quarter who have found new jobs.** That April finding represents an increase from 44% in a similar survey in November 2009.

SOURCE: CAREERBUILDER.COM SURVEY OF OVER 900 U.S. WORKERS WHO HAD BEEN LAID OFF IN THE PAST 12 MONTHS.

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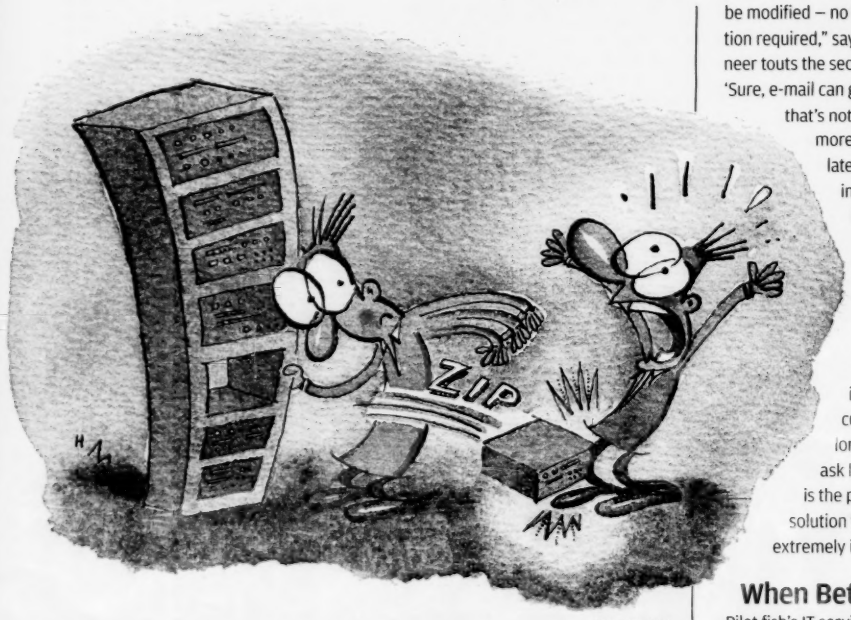

It May Be Longer Now

This pilot fish is moving several servers with a guy from the data center. "As we were removing one from the rack, he gave it a good, strong pull," says fish. "The server flew out of the rack and dropped several feet, bouncing off my legs and feet as it crashed to the floor. The guy looked at me and said matter-of-factly, 'I thought it was longer.' "

OK, That's a Weakness

IT director pilot fish is interviewing candidates for a Web developer position. "I typically will ask for three strengths and three weaknesses," says fish. "But one candidate could come up with only one weakness. I asked him if he reads; he said, 'No, I watch a lot of TV.' I told him I read a lot of biographies of people such as Newton, Kepler, Oppenheimer and Churchill, and one trait nearly all these people shared is that they were introspective. The interviewee looked at me with a blank stare. I asked if something was wrong. He said, 'Yes, I don't know what *introspective* means.' No wonder he could only come up with one weakness."

Things Change

Network security pilot fish's company is looking into a product. "I'm concerned that the software passes a link via unencrypted e-mail that, when clicked, allows for client data to be modified – no identity authentication required," says fish. "Sales engineer touts the security of the system. 'Sure, e-mail can get hacked, but that's not likely,' he says. Not more than two minutes later, when discussing another feature involving transfer of information via SSL, sales engineer says, 'We don't use e-mail for this transfer because e-mail is extremely insecure.' There's a long, long pause when I ask him how e-mail is the preferred secure solution for user input if it is extremely insecure. . . ."

When Better Isn't

Pilot fish's IT services outfit is trying to get a contract with a big public-transportation company. "They wanted to offload some schedule simulation programs," fish says. "But before they would sign the contract, they wanted us to run the software on our machines to see if they would get valid results. We ported their Fortran code to our machines and did a test run, and found that our results were more precise than theirs in simulating the real world. We thought this was great, but when we submitted our output to them, they told us our results were unacceptable. Why? 'Your results show that it takes longer to actually complete the route, and the managers don't like to see that we're not as fast as before.' "

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OPINION

FRANK HAYES

'Perfect Citizen': Wrong, But the Best the NSA Can Do

The big issue is *why* the NSA would have to pay special attention to the networks that run critical infrastructure.

THE NSA'S Perfect Citizen program reminds me of several huge chunks of wood that used to be suspended 30 feet above my street by heavy cables strung between utility poles. When I moved in, I needed a lot of extra phone lines, and it seemed like it was taking forever to get the new service to go live. When I finally asked an installer why, he pointed to the chunks of wood.

Know what those are? he asked. No idea, I said.

They used to be telephone poles, he told me. These phone lines are so old that the poles rotted out underneath them. But instead of restringing the lines, the phone company just put up new poles, attached cables to the old poles where the phone lines connected to them and sliced the poles off just above and below that point.

Congratulations, he said. By ordering five new lines, you forced them to replace that old copper.

What does that have to do with Perfect Citizen? Unfortunately, a lot.

The program's official purpose is to develop the ability to monitor the U.S. critical-infrastructure grid, so cyberattacks against it can be spotted early and defended against effectively. Think of it as packet inspection and network traffic analysis, except on a huge scale and really fast.

Some people worry that the NSA might listen in on Internet conversations. Look, it can already do that. The big issue is *why* the NSA would have to pay special attention to the networks that run critical infrastructure.

The reason for that is painfully simple: Those networks are old. They were designed as private networks, with no need for much security because hacking into them would require making a physical connection. But when they were hooked up to the Internet, they weren't rebuilt from the ground up, or even heavily reworked to make them more secure. That would have been expensive — and utilities are notorious for avoiding any costs that can't be recouped by raising rates.

And as IT people know all too well, no money means no project.

Instead, the utilities did the equivalent of stringing cables, whacking the old poles off above and below, and then going about their business, hoping no one would worry about big chunks of aging network hanging out in full view.

The NSA shouldn't be babysitting these rotting chunks of network, or even just figuring out better ways to monitor them. Instead, the NSA should be developing the most bulletproof designs possible for these critical-infrastructure networks, based on the best crypto and security that the NSA is willing to release to the private sector.

And then those networks shouldn't be retrofitted with the new design — they should be ripped out and replaced properly.

That's what *should* happen.

But that may not be politically possible. Even with shiny new high-security designs, replacing those networks is still expensive.

Who's going to pay? Getting approvals for rate increases from dozens of state utility commissions is politically impossible, as is the prospect of the federal government just tossing money to the utilities to do the upgrades, or taking over the networks in the name of security.

And in the end, *that's* why the NSA is doing this. It's a bad idea, and a long way from perfect. It's not the job the NSA should be doing.

But in a very imperfect situation, Perfect Citizen may be the best we can do. ◆

Frank Hayes has been covering the intersection of business and IT for three decades. Contact him at cw@frankhayes.com.

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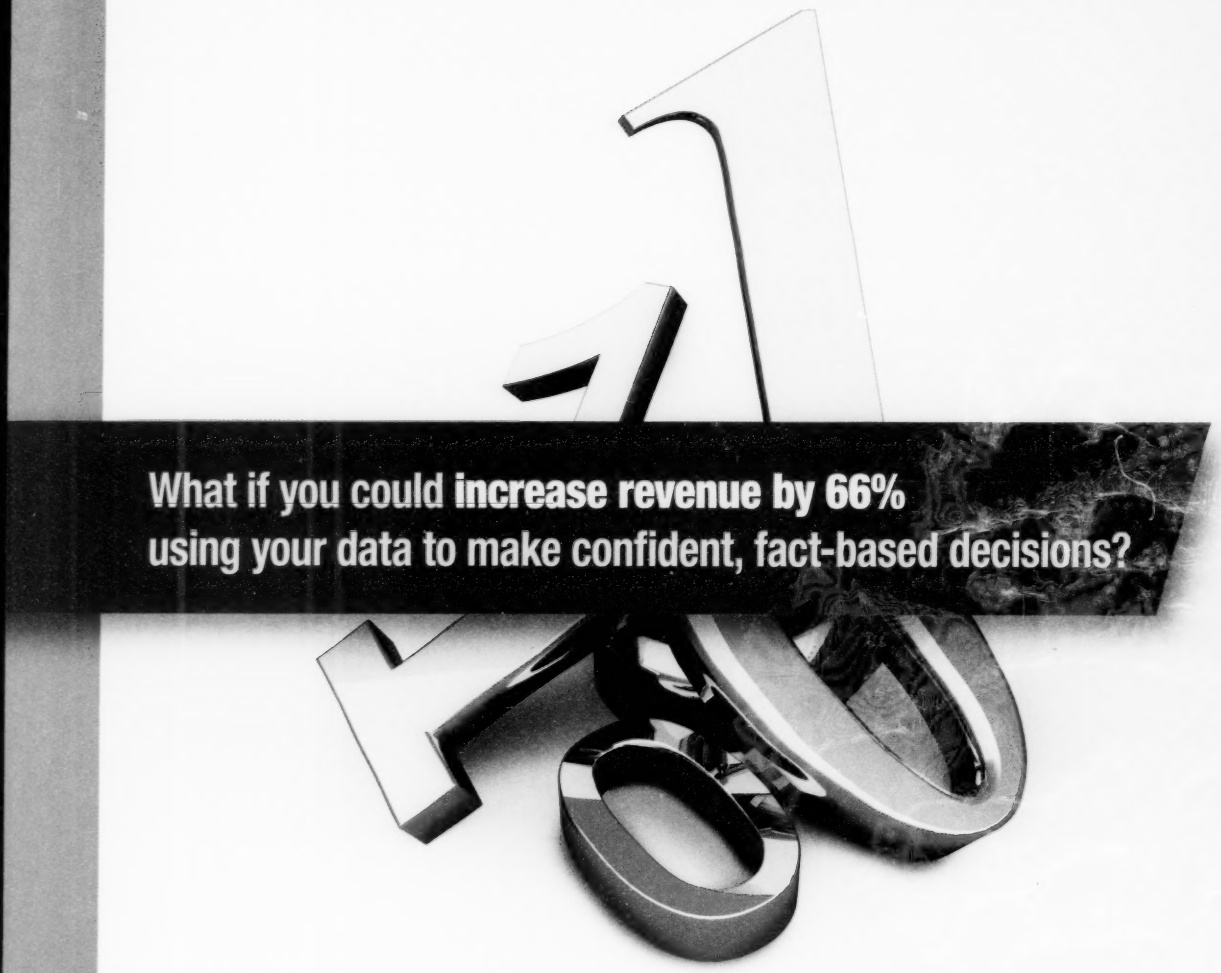

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